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PROVISIONAL SPECIFICATION.

A Collapsable Combination Ambulance, Bedstead, and Stretcher

We, John Robinson of "The North Briton", 10 New North Road London N Licensed Victualler and Henry Gore of 7 Wenlock Street, New North Road, London N. Engineer do hereby declare the nature of this invention to be as follows; —

Our invention relates to a new or improved collapsable ambulance, also applicable for use as a bedstead, stretcher, and the like, and has for its objects to provide for such purposes a light apparatus which may, when not required, and out of use, be folded and collapsed in order to occupy a minimum amount of space, and so render the same portable and easy of transit from place to place.

The said apparatus, by reason of its easy collapsability, portability, lightness and ease of transit is especially applicable in military operations, where nothing can be taken as baggage which is not absolutely necessary, and it has been found, that owing to the large amount of space occupied in transit by ambulances, bedsteads and stretchers as hitherto made, an insufficiency of these has existed in an engagement when the casualties of the soldiers have been heavy, whereas many hundreds of the apparatus according to my invention can be packed and conveyed by one waggon, and when required for use twelve or more of such apparatus can be easily carried, in their collapsed and folded condition, by one man, to the position of the wounded, or where else required, and there be quickly opened to form ambulances, while, should the hospital beds be full, each apparatus can be deposited with the wounded soldier thereon and serve as a temporary bed, instead of being compelled as hitherto, (owing to scarcity of ambulances or stretchers) to place the man upon the hard and often wet ground. Our apparatus is also adapted for use as a bedstead for travellers, volunteers and others when camping and in all similar cases where portability is a great desideratum and space limited, and in hospitals when the usual beds are occupied it may quickly be opened and placed into position wherever convenient for use in any urgent case, as a temporary bed.

Our invention consists in providing of any suitable metal or combination of metals, and if need be other materials, a collapsible frame, the ends of which are preferably in two pieces connected together by a rule or other joint, and hinged or otherwise suitably attached by convenient fittings to the side of the frame, the said sides being arranged in a telescopic manner, and provided with any number of suitable rings ring-hooks or the like for the attachment of a canvas or other hammock. The said corner fittings, and if necessary the sides of the frame, are provided with suitable hinged legs, so arranged, that when placed in a vertical position they rigidly engage with suitable stops and support the frame, suitable hinged or other hand-holds, adapted for carrying the apparatus when employed as an ambulance or stretcher, being provided (preferably upon the said fittings of the frame).

In operation, the apparatus is used similarly to an ordinary ambulance, stretcher, bedstead, or the like, but when it is out of use or required for transit the ends of the frame are folded inwardly, and the sides telescoped longi-

[*Price* 8*d*.]

tudinally, while the hinged pieces forming the legs and hand holds may be folded under, inwardly, or over the now collapsed frame, and be suitably retained in this position by any convenient means.

Dated this 1st day of July 1901

GEO. THOS. HYDE,
1 Broad Street Bldgs Liverpool Street London E.C.
Agent for the Applicant

COMPLETE SPECIFICATION.

A Collapsable Combination Ambulance Bedstead and, Stretcher

We, John Robinson of "The North Briton" 101 New North Road, Hoxton London N, Licensed Victualler and Henry Gore of 7 Wenlock Street, New North Road, Hoxton, London N. Engineer do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement;—

Our invention relates to a new or improved collapsable ambulance, also applicable for use as a bed and bedstead in the service of commercial and other travellers, and in cases of emergency in hospitals, but more particularly for use with an army as a quick and ready means for conveying disabled men from the front to the rear or hospital, and at the same time providing a bed and bedstead upon which the injured man can lie until other and more suitable convenience can be had, thus obviating the inhumanity that obtains when such wounded man has to be left lying upon possibly wet ground until an ambulance can be spared and procured, as has been the case in past experiences, and as the lightness and portability of our said invention, permits that one waggon of a convoy may carry hundreds of them, or one be carried by each member of an army, or a certain number by each battalion or company, it follows, that at all times a sufficient quantity of such ambulances may always be at hand.

For the convenience of commercial and other travellers, who frequently have to sleep in out of the way places in hotels when crowded, our invention will be found a boon, as when collapsed it may not inconveniently be packed in an ordinary valise. Our invention will also be found highly useful for ambulance parties attending crowded gatherings, or for use by the police, and to provide an apparatus of light weight, capable of being folded and collapsed into a small space when out of use, and useful for the purposes stated when expanded, is the object and purpose of our invention.

Referring to the accompanying drawings Figs 1 and 2 Sheet 1 are plan and side elevation respectively of our said invention when expanded and ready for use.

Figs 3 and 4 Sheet 2 are plan and side view respectively of the same, when collapsed and folded ready for transit from place to place, Fig 5 being a vertical section upon the line A B of Fig 1.

Fig 6 is an end elevation of the form of junction piece we prefer to employ for connecting the telescopic sides with the folding ends, and for carrying the four corner legs or supports, and the handles by means of which the whole may be carried by two men, when expanded, Fig 7 being a section upon the line C D Fig 6.

Figs 8 and 9 are sections similar to Fig 7 but illustrating the manner in which the hollow supporting legs engage therewith, the former view showing the leg in a position for folding, and the latter for vertical rigidity, as hereinafter explained.

Fig 10 is an elevation of the upper end of one of the fixed legs or supports.

Fig 11 is a side view of one of the said junction pieces as it would appear when viewed in the direction of the arrow in Fig 6, illustrating the manner in which the carrying handles are mounted thereon, Fig 12 being a plan view of the said handle. Figs 13, 14, 15 and 16 are views of the locking device for maintaining the rigidity of the ends of the frame when opened and in use as hereinafter explained.

Our invention consists of a suitable frame composed wholly or partly of any suitable metal, or combination of metals and other materials, the sides of which a and a^1 are composed of three or more (preferably four) tubular sections b c d and e, adapted to telescope into each other, and all into the larger one e, suitable stops being provided upon the ends of the said sections in the usual way to prevent them from leaving each other when expanded. The outer sections b and e of each of the sides a and a^1 are brazed or otherwise suitably connected to junction pieces f f f f, constructed, for preference, substantially as at Figs 6 and 7, that is to say, with a central hole g for the reception of the end of b or e, as the case may be, and provided with horizontal bifurcations or projections h and vertical depending projections j, the former of which are for the pivotal connection thereto of the free ends of the ends k k^1 of the frame, the said ends being of hollow or tubular metal, and each formed in two equal parts connected by a locking rule joint m, which permits that they may fold inwardly, as in Fig 3, but not outwardly, or to any extent beyond that of alignment with each other, as in Fig 1, and when in the latter position may be locked together as hereinafter explained.

The tongues or projections j of the said junction pieces f, are each provided with an elongated or elliptical hole s for the pivotal connection of hollow or tubular legs or supports n n n n, which said legs may conveniently be of D shape in cross section to facilitate economy of space when folded under the sections e e as in Fig 4. The upper and bifurcated ends or heads p of the said legs are each provided with a circular hole p^1, and are thereby connected by bolts r with the slotted holes s in j, so that when the said legs are in a vertical position they may have a certain vertical play by reason of the bolts r rising and falling in the said slotted holes s, which provides, that when the said bolts r are in their lowest position in the slots s, the upper and horizontal surfaces r^1 r^2 of the bifurcations p would be free and clear of suitably shaped recesses t in the lower surface of j (as shewn by full lines in Fig 8) when the said legs may be folded beneath e as in Fig 4, and as indicated by dotted outline in the same figure, but when the said legs are brought into a vertical position and are stood upon the ground, the weight of the frame would cause the said bolts r to take their highest position and be in the upper ends of the slotted holes s, when the said horizontal surfaces r^1 and r^2 of the legs n would engage with the recesses t in the lower surface of j, substantially as at Fig 9, and by this means the said legs would be kept locked in a vertical position so long as the weight of the frame and all thereon were upon the said vertically placed legs. A pair of similarly arranged legs may be mounted, by means of a ring or loop, upon the telescopic sides a a^1, so as to operate in supporting the frame, centrally or otherwise of its length, when expanded, as suggested by dotted outline at n^1 in Fig 2.

The telescopic sides a a^1 carry any desired number of grooved or other suitable rings v, all arranged to slide on to the larger section e, and to these is hooked, looped, or otherwise connected, when the frame is expanded, a hammock w, of fine canvas, cloth, netting, bunting, silk, cotton, or other easily folded strong material, and which may be arranged to be permanently retained upon the said rings, so as to fold up with the collapsed frame or be strapped, laced or otherwise connected thereto so as to be removable therefrom at will, whichever may be most convenient according to the intended uses of the apparatus.

From the foregoing, and by reference to Figs 3 and 4, it will be understood, that when collapsed as therein shewn, the apparatus would occupy but little space, and possesses all the facilities for transit stated, and that when quickly and easily expanded, as at Figs 1, 2, and 5, with the hammock *w* opened out, that the same may be conveniently employed as a bed under any circumstances, or as an ambulance for conveying sick or injured persons from place to place, and in order to facilitate its use for the latter purpose, we provide upon each corner of the frame a handle *x* (Figs 11 and 12) the upper ends of which are adapted for pivotal connection upon the bolts *r*, and so formed, that when not in use they lie close against, and fold up with, the legs *n*, as shewn by full lines in Fig 11, but when brought into a horizontal position, as shewn by dotted outline in the same figure, and in Fig 1, the upper surfaces of their heads engage beneath lugs *z* upon the junction pieces *f* (Fig 6) and so take the weight of the apparatus and all thereon.

As previously stated, and as shewn in Fig 3, the end pieces *k* and k^1 are adapted to fold inwardly when the whole device is collapsed, and to extend to a position at right angles with the side pieces when the whole device is expanded, as at Figs 1, 2 and 5, and in order that the said parts *k* k^1 when so opened out and in use, may not collapse inwardly, spontaneously, we provide an automatic locking device constructed and arranged as follows, and as shewn by the enlarged views Figs 13, 14, 15 and 16, in which only one of the said end pieces, say *k*, need be described, as both are alike.

The outer faces of the three circular portions of the rule joint connecting the two parts of *k* have each a preferably rectangular recess m^1 formed therein, substantially as at Fig 13, and when the two parts of *k* are in alignment with each other, as in this figure, the three said slots m^1 in the three members of the said rule joint would be in vertical alignment, substantially as at Fig 14. The bolt or pin k^2, connecting the members of the said rule joint, is longer than the combined thickness of the said members, and has at its lower end a heel piece k^3, having a turned up end k^4 adapted to engage with the three recesses m^1 when the two parts of *k* are opened out as at Fig 13, the upper end of the bolt k^2 being provided with a spiral spring k^5, (the tensional force of which may be regulated by the nut) which tends to keep the said bolt in its highest position, with its heel k^3 abutting against the lower member of the rule joint.

In practice, to close up or collapse the said end *k*, a downward pressure would be imparted to the bolt or pin k^2, thus forcing this and its heel k^3 downward until the turned up end k^4 is below and clear of the middle of the three members of the rule joint, as at Fig 16, when the said end *k* may be folded inwardly as at Fig 3, the bolt k^2 remaining in this position by reason of the recess m^1 of the middle member having thereby been moved out of alignment with the recesses m^1 in the upper and lower members, in which case the upper edge of the turned up end k^4 would abut against the under surface of the solid portion of the middle member, but when the end *k* is again opened out into the position for use, as stated, and the recesses m^1 again become in vertical alignment with each other, the power of the spring k^5 would cause the bolt or pin k^2 to rise, and its turned up end k^4 to engage with the said recesses m^1 in the two lower, or all three of the members of the rule joint, and so automatically lock the said end *k* in its opened out position, and substantially as shewn by Fig 15. The same explanation appertains to the end k^1.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:

(1) The collapsable combination ambulance bed and bedstead, and stretcher, substantially as described and shewn.

(2) The combination collapsable ambulance bed and bedstead, and stretcher, consisting of telescopic sides *a* a^1, folding hollow ends *k* and k^1, with means for automatically locking the same when opened out, adjustable folding hollow

legs *n*, with or without auxiliary legs n^1, with means for supporting and locking the same when in a vertical position, the said sides a a^1 carrying any number of rings or their equivalents *r*, for supporting a flexible hammock *w*, and handles such as *x* for carrying the whole when expanded and in use, substantially as described and shewn.

Dated this 29th day of April 1902

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Patent Agent for the Applicants

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(2 SHEETS)

SHEET 1.

Fig 1

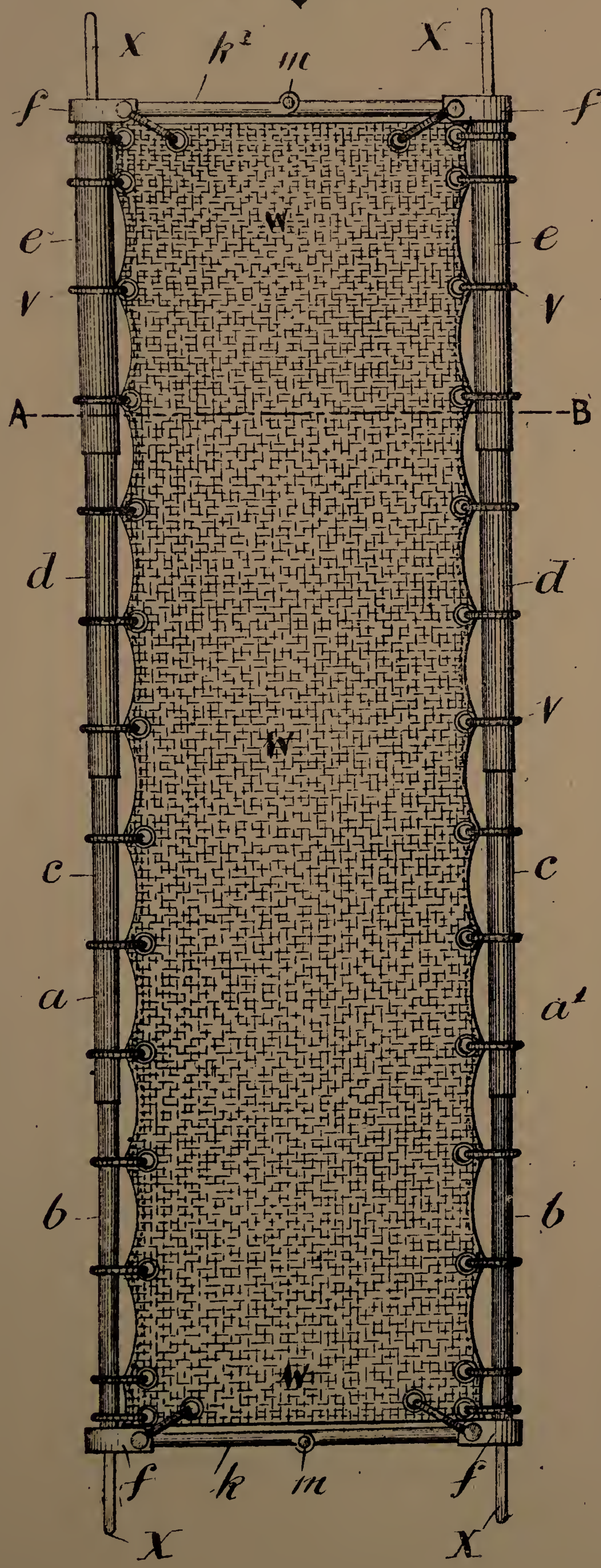
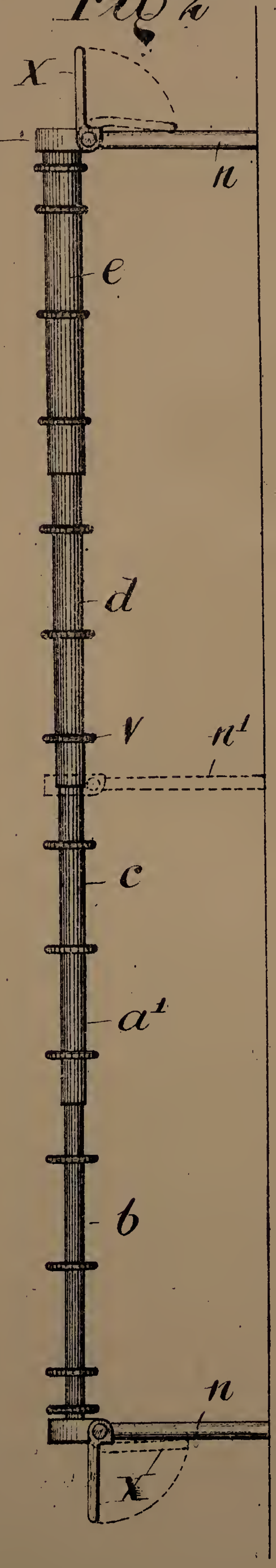


Fig 2



SHEET 2

Fig 13

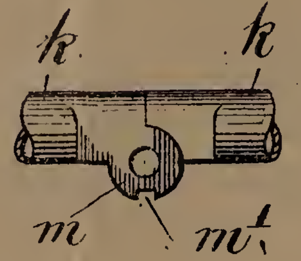


Fig 3

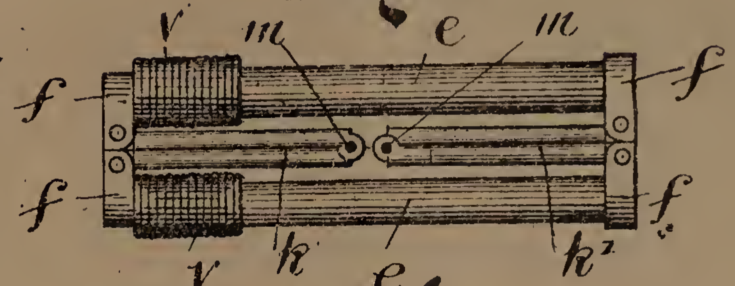


Fig 15

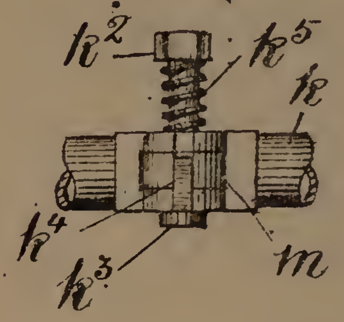


Fig 4

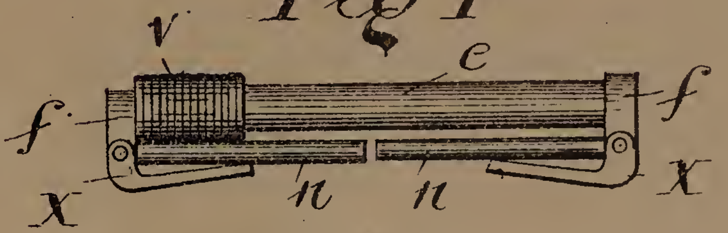


Fig 14

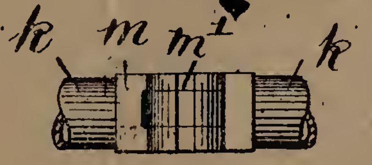


Fig 5

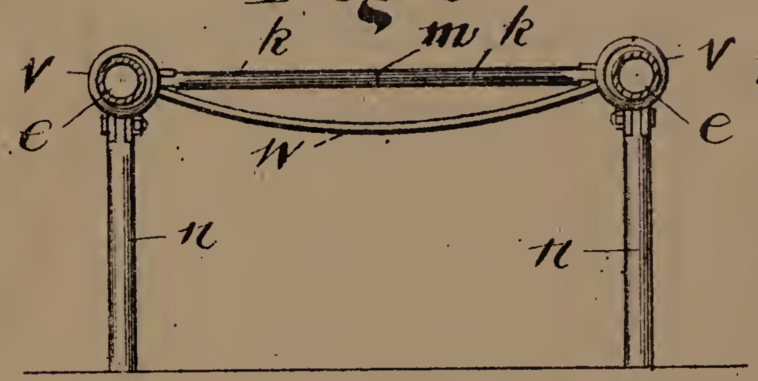


Fig 16

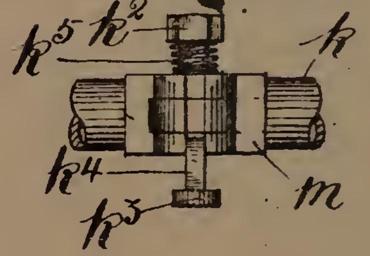


Fig 6

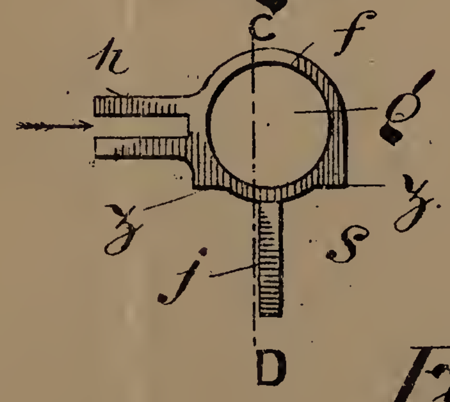


Fig 7

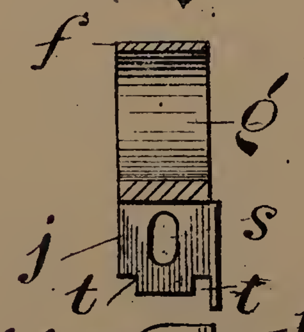


Fig 8

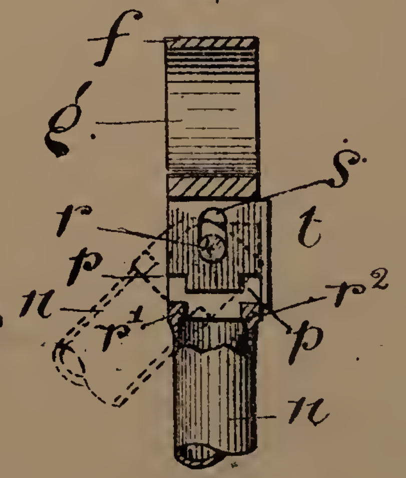


Fig 9

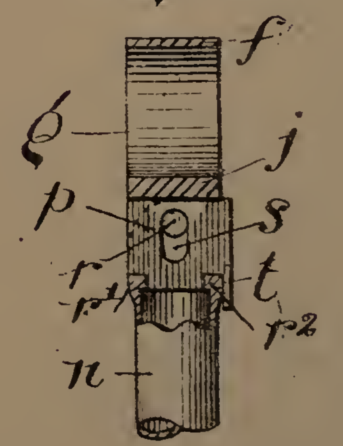


Fig 10

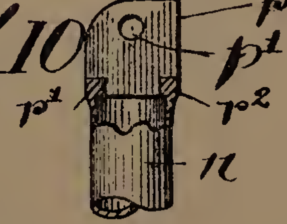


Fig 11

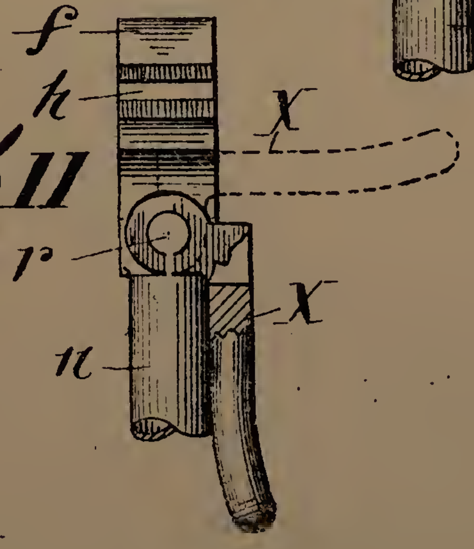
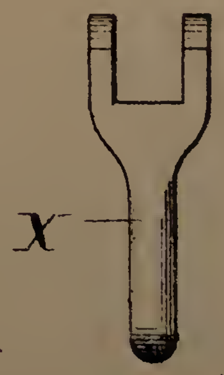


Fig 12



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